



## ■ Features

- 180 ~ 550Vac ultra wide input for 1-phase or 2-phase
- 32mm slim width
- 4.7KVac I/O high isolation(Reinforced isolation)
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- -30~+85°C ultra-wide operating temperature (>+60°C derating)
- Over voltage category III
- DC OK relay contact
- DC output voltage adjustable(+20%)
- 3 years warranty

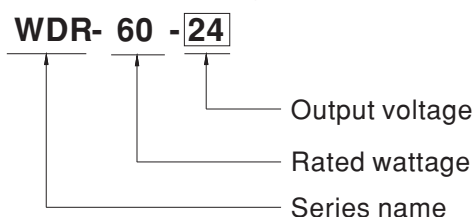
## ■ Applications

- Industrial control system
- Semiconductor fabrication equipment
- Factory automation
- Electro-mechanical apparatus

## ■ Description

WDR-60 series is a 60W DIN rail power supply with ultra-wide AC input range. It is suitable to be mounted on TS-35/7.5 or TS-35/15 rails. Main features are as following: it can accept 180~550Vac ultra-wide input voltage range for single phase or 2-phase system, easy to install DIN rail type, narrow width (32mm) in slim design, -30~+85°C wide range operating temp, 4.7KVAC high isolation voltage, operation at 2000m altitude, adjustable output voltage (+20% max.), high efficiency, low ripple & noise, complete protections and so on. WDR-60 is compliant with EN-61000-6-2 standard regarding immunity for industrial environments. It suitable for industrial automation, surveillance, telecommunication and more applications.

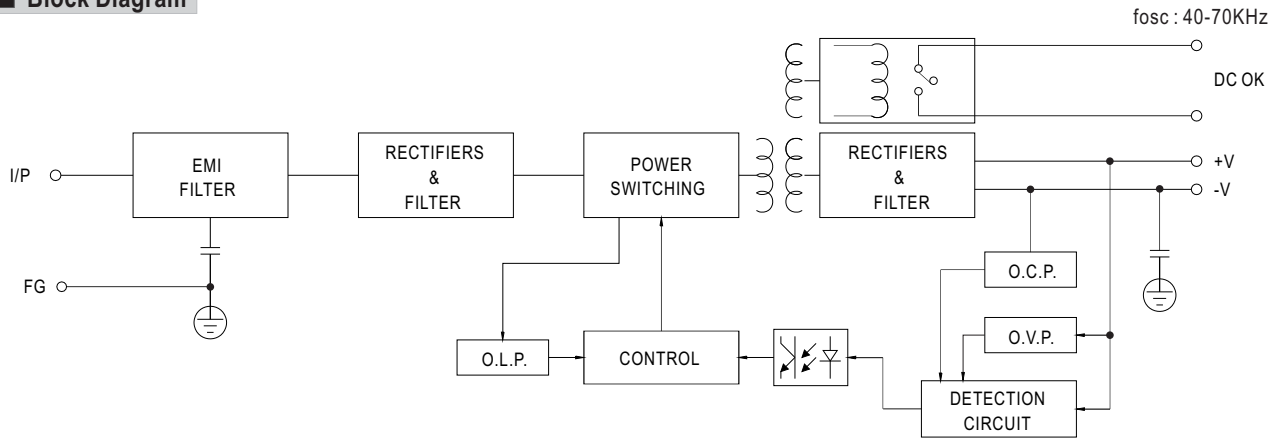
## ■ Model Encoding



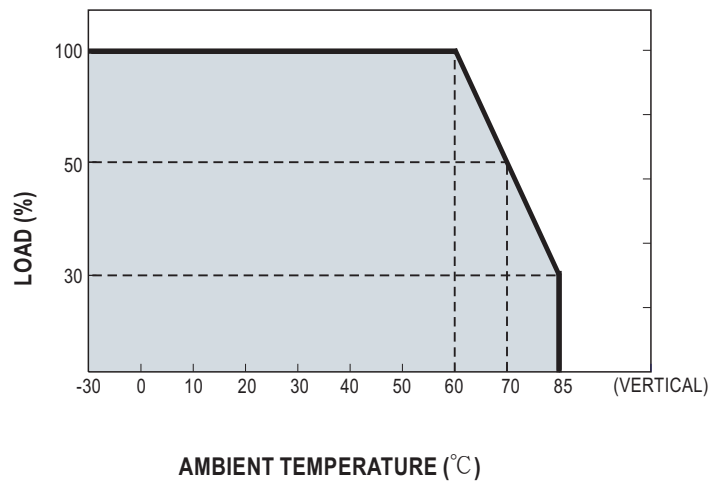
**SPECIFICATION**

MODEL		WDR-60-5	WDR-60-12	WDR-60-24	WDR-60-48
OUTPUT	DC VOLTAGE	5V	12V	24V	48V
	RATED CURRENT	10A	5A	2.5A	1.25A
	CURRENT RANGE	0 ~ 10A	0 ~ 5A	0 ~ 2.5A	0 ~ 1.25A
	RATED POWER	50W	60W	60W	60W
	RIPPLE & NOISE (max.) Note.2	100mVp-p	120mVp-p	150mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE	5 ~ 6V	12 ~ 15V	24 ~ 29V	48 ~ 57V
	VOLTAGE TOLERANCE Note.3	±2%	±1.5%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.5%	±0.5%	±0.5%	±0.5%
SETUP, RISE, HOLD UP TIME	1000ms, 70ms, 20ms/400Vac      2000ms, 70ms, 10ms/230Vac at full load				
INPUT	VOLTAGE RANGE Note.4	180 ~ 550Vac or 254 ~ 780Vdc			
	FREQUENCY RANGE	47 ~ 63Hz			
	EFFICIENCY (Typ.)	83.5% / 400Vac	86.5% / 400Vac	89% / 400Vac	90.5% / 400Vac
	AC CURRENT	0.4A/400Vac      0.7A/230Vac			
	INRUSH CURRENT (max.)	COLD START 50A/400Vac 30A/230Vac			
LEAKAGE CURRENT	<2mA / 530Vac				
PROTECTION	OVERLOAD	105 ~ 135% rated output power Hiccup mode when output voltage <50%, recovers automatically after fault condition is removed Constant current limiting within 50% ~ 100% rated output voltage, recovers automatically after fault condition is removed			
	OVER VOLTAGE	6.2 ~ 7.2V	16 ~ 18V	31 ~ 37V	58 ~ 60.5V
	OVER TEMPERATURE	Protection type : Shut down o/p voltage, re-power on to recover			
FUNCTION	DC OK SIGNAL	Relay contact rating(max.) : 30V / 1A resistive			
ENVIRONMENT	WORKING TEMP.	-30 ~ +85°C (Refer to "Derating Curve")			
	WORKING HUMIDITY	20 ~ 90% RH non-condensing			
	STORAGE TEMP.	-40 ~ +85°C			
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 60°C)			
	VIBRATION	Component: 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting clip: Compliance to IEC60068-2-6			
	OPERATING ALTITUDE Note.5	2000 meters			
SAFETY & EMC (Note 7)	OVER VOLTAGE CATEGORY	III; According to EN61558, EN50178, EN60664-1, EN62477-1, EN60204-1; altitude up to 2000 meters			
	SAFETY STANDARDS	UL61010, EN61558-2-16, EAC TP TC 004 approved; design refer to GL and EN60204-1(By request)			
	WITHSTAND VOLTAGE	I/P-O/P:4.7KVAC I/P-FG:2.5KVAC O/P-FG:0.5KVAC O/P-DC OK:0.5KVAC			
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH			
	EMC EMISSION	Parameter	Standard	Test Level / Note	
		Conducted	EN55032(CISPR32)	Class B	
		Radiated	EN55032(CISPR32)	Class B	
		Harmonic Current	EN61000-3-2	Class A	
		Voltage Flicker	EN61000-3-3	-----	
	EMC IMMUNITY	EN55024, EN55035, EN61000-6-2, EN61204-3			
Parameter		Standard	Test Level / Note		
ESD		EN61000-4-2	Level 3, 8KV air; Level 2, 4KV contact, criteria A		
Radiated Susceptibility		EN61000-4-3	Level 3, 10V/m, criteria A		
EFT Bursts		EN61000-4-4	Level 3, 2KV/5KHz, criteria A		
Surge		EN61000-4-5	Level 4, 2KV/Line-Line, 4KV/Line-Earth, criteria A		
Conducted		EN61000-4-6	Level 3, 10V, criteria A		
Magnetic Field		EN61000-4-8	Level 4, 30A/m, criteria A		
Voltage Dips and interruptions	EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods			
OTHERS	MTBF	313.68K hrs min. MIL-HDBK-217F (25°C)			
	DIMENSION	32*125.2*102mm (W*H*D)			
	PACKING	0.45Kg; 28pcs/13.6Kg/1.24CUFT			
NOTE	<p>1. All parameters NOT specially mentioned are measured at 400VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf &amp; 47µf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Derating may be needed under low input voltage. Please check the derating curve for more details.</p> <p>5. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</p> <p>6. Installation clearances : 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full power. In case the adjacent device is a heat source, 15mm clearance is recommended.</p> <p>7. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</p>				

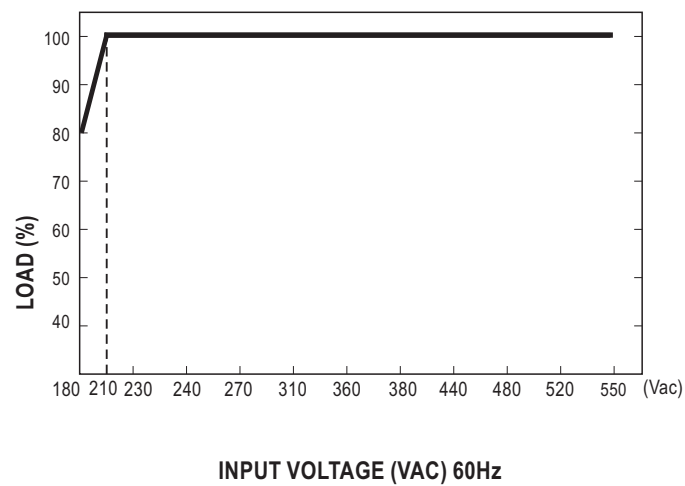
### Block Diagram



### Derating Curve



### Static Characteristics

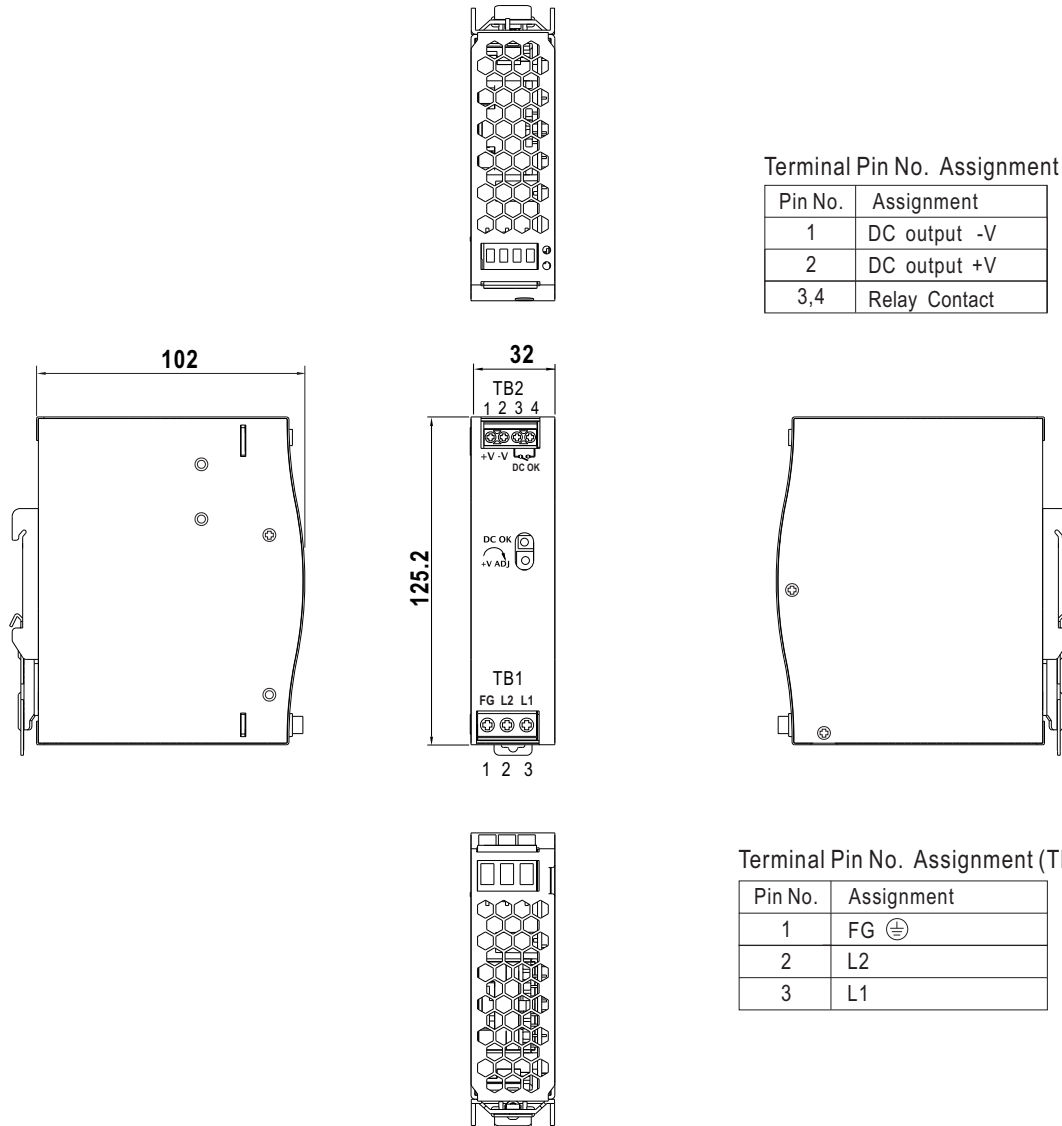


### DC OK Relay Contact

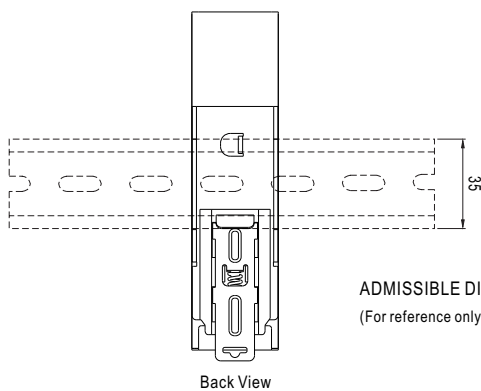
Contact Close	PSU turns ON / DC OK.
Contact Open	PSU turns OFF / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.

## Mechanical Specification

Case No.221E Unit:mm



## Installation Instruction



ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15  
(For reference only. Not included with unit.)

## Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>